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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,817	01/10/2002	Walter G. Birdsell	H0657/7010	8035
7278	7590	01/22/2004	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			JEFFERY, JOHN A	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 01/22/2004

*9*

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/044,817

Applicant(s)

BIRDSELL ET AL.

Examiner

John A. Jeffery

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Joint Inventors--Common Ownership Presumed***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligations under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 1-3, 6, 8, 9, 11, 13, 15, 20, 22, 23, 25, 27, 28, 30, 32, 34, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US1827788). Hicks (US1827788) discloses a portable heater comprising housing 11 (which can be made of

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metal – P. 1, lines 62-64), inlet 14 at the bottom of the housing, an outlet at the top covered by grille 24. A baffle 20 surrounds electric heater 19 so that heated air flowing via natural convection through the housing and heat radiated from the heater tube 17 is confined within the baffle, thus ensuring the housing is not “undesirably hot.” See P. 1, lines 58-98 and Fig. 1 and 2. The claims differ from Hicks (US1827788) in calling for a plurality of baffles within the housing. Although the baffle 20 is a unitary structure, no criticality is seen in the use of multiple baffles in lieu of a single baffle to enclose the heater to confine the heat within the baffle. Indeed, applicant’s own disclosure states on Page 7, lines 9-13 that the baffles of the instant invention “may be made in any suitable way” and can “have one or more parts.” (emphasis added.) In any event, the purpose of the plurality of baffles enclosing the heater in the instant invention and the single surrounding baffle of Hicks (US1827788) is the same – namely to confine the heat radiated by the electric heater to ensure the outer heater housing is not overheated. Therefore, the use of a plurality of baffles in lieu of a single baffle is not seen to be critical and does not patentably distinguish over Hicks (US1827788). Regarding claim 13, the scope and breadth of “end cap” did not preclude the “end caps” of support 12.

Regarding claims 9 and 25, the specific choice of 170 degrees Celsius as a threshold merely sets forth the optimum value of housing temperature based upon the shielding effect of the baffle, and is merely an optimum value within the scope of routine experimentation by those skilled in the art. It is well settled that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456,

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105 USPQ 233,235 (CCPA 1955). Here, because the general conditions of the claim are met by the prior art, namely reducing the temperature of the heater housing by providing a baffle enclosing the heater, the specific temperature limit of the housing is merely an optimization of such a temperature reduction readily discoverable via routine experimentation and does not therefore constitute a patentably distinguishable feature of the invention.

With regard to limitation that the housing structural components are capable of being made by a roll forming process, the limitation merely recites a product by process limitation and reciting how a product is made does not further limit the structure of the product itself. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted.) Here, although the metallic housing structure of Hicks (US1827788) is not expressly stated to be roll formed, its metallic structure is capable of being so formed. Additionally, patentability of the heater itself does not depend on how it is made.

With regard to the housing volume limitations recited claims 22, 23, *et. seq.*, the volume of the housing is not expressly stated in the prior art. However, in view of the relatively small size of the portable heater housing of Hicks (US1827788) (e.g., it could

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be set on a small end table), it is readily apparent that its volume would be "less than 16,500 ccm" as claimed. Moreover, no criticality is seen in the housing volume being exactly 15,000 ccm as claimed in claim 23 *et. seq.* The choice of housing volume necessarily equates to a choice in size of the housing which is a matter of engineering design preference accounting for well known factors in ensuring a desired convective heating effect including: the size of the space to be heated, the heat output of the electric heater, the size of the outlets, where in the room the heater will be located, and other engineering factors well within the level of one of ordinary skill in the art.

Claims 4, 5, 10, 16, 17, 24, 29, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US1827788) in view of Fiandt (US2823291). The claims differ from the previously cited prior art in calling for an over-temperature safety device. Providing a safety device responsive to excessive temperature in a portable electric space heater with a surrounding baffle is conventional and well known in the art as evidenced by Fiandt (US2823291) noting safety device 10 that deenergizes the electric heater responsive to excessive temperature. Note also baffle 40 surrounding the electric heating element 26. The safety device ensures that the heater is not overheated despite the existence of a surrounding baffle which confines heat within the baffle. In view of Fiandt (US2823291), it would have been obvious to one of ordinary skill in the art to provide a safety device in conjunction with the previously described apparatus in order to ensure that the heater is not overheated despite the existence of a

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surrounding baffle which confines heat within the baffle, thereby improving safety and prolonging the life of the heater.

The claims also differ from Hicks (US1827788) in calling for the housing to be a rectangular box. Forming a portable heater housing in the shape of a rectangular box in lieu of a generally cylindrical structure is conventional and well known in the art as evidenced by Fiandt (US2823291) noting Figs. 1, 2, 5, 6, and 9. A rectangular box provides a somewhat smaller footprint and more slender profile than a cylinder thus enabling the heater to be mounted nearer to a flat surface such as a wall. Compare the rectangular housing of Figs. 1, 2, 5, 6, and 9 with the cylindrical housing of Fig. 18. In view of Fiandt (US2823291), it would have been obvious to one of ordinary skill in the art to use a rectangular box housing shape in lieu of the cylindrical housing shape of Hicks (US1827788) in order to provide a somewhat smaller footprint and more slender profile than a cylinder thus enabling the heater to be mounted nearer to a flat surface such as a wall.

Claims 7, 14, 18, 19, 31, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US1827788) in view of Covault (US3575582). The claims differ from the previously cited prior art in calling for a fan. Providing a fan in an electric space heater with a baffle surrounding the electric heater is conventional and well known in the art as evidenced by Covault (US3575582) noting fan 222 which urges air upwardly through the baffle and adjacent electric heater to convectively heat the air. According to col. 1, lines 10-17 of Covault (US3575582), by pumping air through the

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chamber, more heated surface area is exposed to passing air thereby improving convection heating efficiency. In view of Covault (US3575582), it would have been obvious to one of ordinary skill in the art to provide a fan to urge air through the baffle so that more heated surface area is exposed to passing air thereby improving convection heating efficiency. Regarding claims 14 and 35, note grill 24 formed of a unitary metal member in Fig. 1 which is capable of being formed by a punch pressing process. In view of Covault (US3575582), it would have been obvious to one of ordinary skill in the art to use a grill formed of a single metal member in lieu of the wire mesh grill in Hicks (US1827788) so that the grill could be formed by a continuous punch pressing process thus using less materials and saving time in forming the grill.

Claims 12, 21, 26, 38-47, and 50-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US1827788) in view of Gartner (US3775590). The claims differ from the previously cited prior art in calling for the heating element to have a heat output up to about 1500 watts. Providing an electric heater with a commensurate heat output in a portable convection space heater is conventional and well known in the art as evidenced by Gartner (US3775590) noting col. 3, lines 34-40 where an electric heater having a power of 1400-1700 watts is disclosed. In view of Gartner (US3775590), it would have been obvious to one of ordinary skill in the art to use an electric heater with the claimed heat output values in the previously described apparatus so that sufficient heat was imparted to the space to be heated by selecting an electric heating element with suitable power rating thereby ensuring the heater was

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adequate for the task thus precluding the need for additional heat sources. With regard to claim 51, the claim differs from Hicks (US1827788) in calling for a fan. However, providing a fan to increase the volume of air flowing through the housing is conventional and well known in the art as evidenced by Gartner (US3775590) noting fan 43. In view of Gartner (US3775590), it would have been obvious to one of ordinary skill in the art to provide a fan in the previously described apparatus in order to increase the volume of air flowing through the housing thereby improving convection heating efficiency.

With regard to the claimed heat output ratio recited in claims 39, 43, and 45, the ratio merely sets forth the optimum heating intensity based upon the shielding effect of the baffle, and is merely an optimized condition within the scope of routine experimentation by those skilled in the art. It is well settled that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *Aller, supra*, at 456, 105 USPQ at 235. Here, because the general conditions of the claim are met by the prior art, namely reducing the temperature of the heater housing by providing a baffle enclosing the heater, the specific heat output ratios claimed with respect to the housing is merely reflect an optimization of such a temperature reduction readily discoverable via routine experimentation and do not therefore constitute patentably distinguishable features of the invention.

Claims 48 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US1827788) in view of Gartner (US3775590) and further in view of Fiandt

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(US2823291). The claims differ from the previously cited prior art in calling for an over-temperature safety device. Providing a safety device responsive to excessive temperature in a portable electric space heater with a surrounding baffle is conventional and well known in the art as evidenced by Fiantt (US2823291) noting safety device 10 that deenergizes the electric heater responsive to excessive temperature. Note also baffle 40 surrounding the electric heating element 26. The safety device ensures that the heater is not overheated despite the existence of a surrounding baffle which confines heat within the baffle. In view of Fiantt (US2823291), it would have been obvious to one of ordinary skill in the art to provide a safety device in conjunction with the previously described apparatus in order to ensure that the heater is not overheated despite the existence of a surrounding baffle which confines heat within the baffle, thereby improving safety and prolonging the life of the heater.

### ***Response to Arguments***

Applicant's arguments filed 1/5/04 have been considered but are not deemed to be persuasive.

1. Providing a Plurality of Baffles In Lieu of a Single Baffle is Not Critical to the Invention.

As noted in the rejection, providing multiple baffles in lieu of a single baffle in a portable electric space heater is not critical to the invention. Such noncriticality is readily apparent to the skilled artisan because (1) applicant admits in the instant specification that the baffles may be made in a unitary structure, and (2) the underlying purpose of such baffles is identical to Hicks' unitary baffle structure -- namely to confine

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the heat radiated by the electric heater to ensure the outer heater housing is not overheated.

Applicant, however, contends that "Hicks does not provide any motivation for a person of ordinary skill in the art to create a heater with more than one baffle."

Remarks, P. 4. Applicant further alleges that "the Examiner...impermissibly looked to the disclosure of the present invention to supply the necessary motivation which is lacking from Hicks." *Id.*

But the examiner was not relying on the instant specification for "motivation to create a heater with more than one baffle." Rather, the examiner turned to the specification for guidance regarding the criticality of such a feature. On Page 7, lines 9-13 of the instant specification, applicant states that the baffles of the instant invention "may be made in any suitable way" and can "have one or more parts." (emphasis added.) Reading the claims in light of the specification, and in view of the baffles' identical heat-confining function as that of the prior art baffle, the examiner saw no criticality in providing multiple baffles in lieu of a single baffle. In short, multiple baffles do not patentably distinguish over a single baffle--particularly in light of their identical purpose and applicant's clear implication that the goals of the invention could be equally met by a single baffle.

2. The Scope and Breadth of the Term "Safety Device" Does Not Preclude Fiandt's Thermostat.

Applicant next argues that "a thermostat which merely regulates the operation of a heater to be within a user-set temperature range is not a safety device." Remarks, P.

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6. Applicant contends that because the safety device of the instant invention can override a thermostat, the examiner's reliance on a user-adjustable thermostat as a "safety device" allegedly is misplaced. *Id.*

But thermostats, like those disclosed by Fiandt, deenergize electric heaters responsive to sensing a predetermined elevated temperature and thus ensure safer heater operation. By preventing overheating by ensuring the heater is turned off at a set elevated temperature, the thermostat ensures safe heating element operation. Merely because Fiandt's thermostat can be manually adjusted by a dial does not preclude its use as a temperature-responsive "safety device."

Ultimately, the function of the thermostat in Fiandt is to ensure the heater maintains a desired temperature range to avoid overheating. Given the term "safety device" its broadest reasonable interpretation, Fiandt's temperature control fully meets the limitation, particularly in view of its ability to shut the heater off responsive to a predetermined elevated temperature. The limitation is fully met and the rejection is proper.

3. The Claimed Housing Volume Values Are Not Critical to the Invention and Merely Equate to a Engineering Design Choice in Housing Size Well Within the Level of the Skilled Artisan.

Applicant next argues that because Hicks teaches away from compact portable electric heaters, the reference lacks the motivation to achieve the invention with the housing volume limitations of claims 22-24 and 27. In attempting to refute the

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examiner's conclusion that Hicks' heater is of relatively small size, applicant notes Page 2, lines 76-79 where Hicks states the units "are...of considerable size."

The examiner agrees that Hicks states his units are of "considerable size." But no further structural or volumetric details are provided to clarify what Hicks meant by "considerable size." Indeed, without further refinement and clarification, subjective and relative terms such as "relatively small" and "considerable" when describing size inevitably vary from one skilled artisan to the next. Only by examining the term in context can one glean a reasonable interpretation of such terms.

Although Hicks' vase is disclosed as mounted on floor 13, the heater is ultimately portable and capable of being moved to achieve a desired decorative appearance within the room. See, e.g., Hicks, P. 1, lines 7-23. Thus, the examiner's characterization of "relatively small" was intended to emphasize its portability in contrast to a massive wall register or fireplace type heaters that are relatively immovable upon installation in a room. In essence, Hicks' heater is a decorative, artistic work that is placed in a desired room location commensurate with the aesthetic décor of the room.

As the examiner noted in the rejection, the claimed volume values were not found to be critical since a choice of housing volume necessarily equates to a choice in size of the housing: a matter of engineering design preference. Such an engineering choice accounts for well-known factors in ensuring a desired convective heating effect including:

- the size of the space to be heated;
- the heat output of the electric heater;

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- the size of the outlets;
- exactly where in the room the heater will be located; and
- other engineering factors well within the level of one of ordinary skill in the art (convection heat transfer considerations, etc.)

In short, the size--and necessarily the volume--of the heater housing is an engineering design choice to achieve a desired convective heating effect well within the level of the skilled artisan and readily achievable via routine experimentation. The rejection is proper.

4. Gartner Teaches and Suggests the Claimed Heater Output Wattage.

Applicant lastly argues that Gartner does not disclose the heat output wattage of claim 12. Remarks, P. 7. According to applicant, Gartner discloses the input line voltages and "the power consumed by an electric heater." *Id.* Such consumed power purportedly does not disclose or suggest the heater's heat output wattage. *Id.*

The examiner notes that in col. 3, lines 38-40 or lines 61-63, Gartner does not state that his recited wattage values do not represent heater output power. Thus, applicant's characterization that Gartner's wattage rating does not represent heat output is not supported by the reference. In fact, Gartner merely states that the heater has a 1400-1700W wattage.

But even if one were to assume that Gartner's heater wattage rating somehow does not represent heat output *per se*, skilled artisans are well aware that an electric

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heater's consumed power wattage rating is correlated with, and directly related to, its heat output. For example, see White, Jr. et al (U.S. Pat. 5,479,558), cited merely as extrinsic evidence to clarify the Gartner reference. In col, 5, lines 29-32, White states in relevant part:

[T]here are four power switching subcircuits 84 controlling four heating elements 21. In a preferred embodiment, heating elements 21 consume 5500 watts each, for a total heat output of 22 kilowatts. (emphasis added.)

As noted by White, each of the four heating elements individually consumes 5500 watts, resulting in a total heat output of 22 kilowatts. Thus, as evidenced by White, an electric heating element's power consumption is not only directly related to its heat output, it is typically expressed in terms of its heat output. Therefore, Gartner's wattage rating fairly teaches and suggests the claimed heat output rating to the skilled artisan and fully meets the limitation.

### ***Final Rejection***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

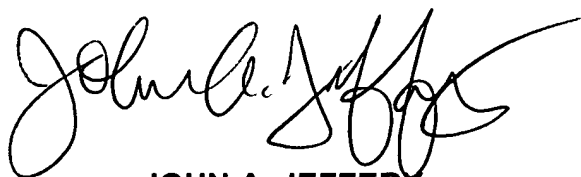
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Jeffery whose telephone number is (703) 306-4601. The examiner can normally be reached on Monday - Thursday from 7:00 AM to 4:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached on (703) 308-2634. All faxes should be sent to the centralized fax number at (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

A handwritten signature in black ink, appearing to read "John A. Jeffery", with a stylized flourish extending from the end.

**JOHN A. JEFFERY  
PRIMARY EXAMINER**

**1/20/04**